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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,118	04/20/2001	Hiroshi Takanashi	2001-0476	9938

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EXAMINER

LEE, SIN J

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,118

Applicant(s)

TAKANASHI ET AL

Examiner

Sin J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-27-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. In view of the newly cited prior arts, previously indicated allowability of present claims 1-4 is hereby withdrawn, and the following rejections are made non-final.

Claim Rejections - 35 USC § 103

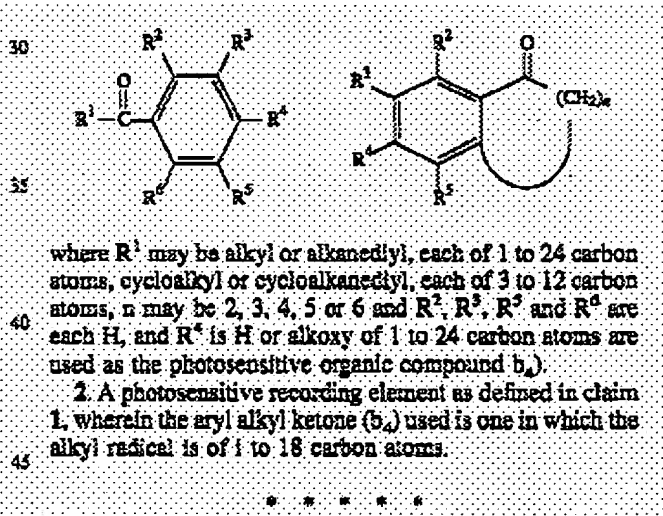
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loerzer et al (5,468,596).

Claims 1 and 2 of Loerzer teaches the following:

1. A photosensitive recording element comprising
(A) a dimensionally stable substrate,
(B) a photopolymerizable relief-forming recording layer
and, optionally, an adhesion-promoting layer arranged
between (A) and (B), a release layer (C) applied to that
side of the recording layer (B) which faces away from
the substrate (A), and, optionally, a cover sheet (D)
applied thereon, the photopolymerizable relief-forming
recording layer (B) containing
b₁) at least one polymeric binder,
b₂) at least one photopolymerizable olefinically unsaturated monomer which is compatible with b₁),
b₃) at least one photopolymerization initiator and
b₄) at least one further photosensitive organic compound wherein one or more aryl alkyl ketones of the
formula (I) and (II) serving to provide a tack-free
surface



Based on Loerzer's teaching in claim 2, one of ordinary skill in the art would immediately envisage using the aryl alkyl ketone of the formula (I) in which R¹ is an alkyl radical of 1 carbon atom (i.e, a methyl radical), and R²-R⁶ are H atoms as his

photosensitive organic compound (b₄) (in fact, Loerzer uses such compound in his Examples 5 and 6 – see Table). Such compound (*an acetophenone*) teaches present compound (E) of formula (I), in which R¹ is an unsubstituted, saturated hydrocarbon group and X is COR² (wherein R² is an unsubstituted aromatic hydrocarbon group).

Loerzer teaches (col.5, lines 8-12) the amount of his photosensitive organic compound (b₄) to be 0.05-10 % by weight based on the total amount of components present in the photopolymerizable relief-forming recording layer. Since this range overlaps with present range of 0.001-0.3% by weight, the prior art's range would have made present range *prima facie* obvious. In the case "where the [claimed] ranges overlap or lie inside ranges disclosed by the prior art," a *prima facie* case of obviousness would exist which may be overcome by a showing of unexpected results, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Therefore, Loerzer's teaching renders obvious present component (E).

Loerzer teaches (col.5, lines 5-8) the amount of the photopolymerization initiator to be 0.01-10 % by weight. Since this range overlaps with present range of 0.5-5 wt%, the prior art's range would have made present range *prima facie* obvious. See In re Wertheim, supra. Therefore, Loerzer's teaching renders obvious present component (C).

Moreover, Loerzer teaches (col.5, lines 47-50) that his photopolymerizable relief-forming recording layer (B) may contain a thermal polymerization inhibitor (present component (D)).

Loerzer also teaches (col.5, lines 62-65) that the thickness of his photopolymerizable relief-forming recording layer (B) ranges from 200 um (0.2 mm) to 1 cm (10 mm). Since this range overlaps with present range of 0.45-0.8 mm, the prior art's range would have made present range *prima facie* obvious. See In re Wertheim, supra. Therefore, Loerzer's teaching renders obvious present inventions of claims 1 and 3 (Loerzer uses a developer containing n-pentane alcohol (see col.8, lines 1-6) to dissolve away the unexposed portions of the relief-forming recording layer. Thus, it is the Examiner's position that Loerzer's polymeric binder is alcohol-soluble).

With respect to present claim 2, since acetophenone has a boiling point of 202°C (this information was obtained from Aldrich Handbook of Fine Chemicals and Laboratory Equipment), Loerzer's teaching renders obvious present invention of claim 2.

With respect to present claim 4, Loerzer teaches (col.3, lines 15-23) a process for the production of a relief printing plate, in which the photosensitive recording element is exposed imagewise, and the unexposed parts of the relief-forming recording layer are removed using a developer. Therefore, Loerzer's teaching renders obvious present invention of claim 4.

Claim Rejections - 35 USC § 103

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minonishi et al (4,716,094).

Claim 1 of Minonishi teaches the following:

1. A photosensitive resin composition for use in preparing a printing plate for flexography which is improved with respect to surface tack-free characteristics after curing by exposure to actinic radiation, comprising:

- (a) an ethylenically unsaturated prepolymer having a number average molecular weight of 5000 or more per double bond and at least one urethane bond;
- (b) an ethylenically unsaturated monomer;
- (c) a photoinitiator; and

(d) at least one compound represented by the general formula (I)



wherein R^1 represents a monovalent hydrocarbon residue represented by C_nH_{2n+1} or C_nH_{2n-1} in which n is an integer of from 11 to 21; and X represents $-\text{COOH}$, $-\text{CONH}_2$ or $-\text{CH}_2\text{OR}^2$ in which R^2 represents H or $-\text{CO}-R^3-\text{S}-R^4-\text{COOCH}_2-R^4$ in which R^3 is a divalent hydrocarbon residue having 1 to 6 carbon atoms and R^4 has the same meaning as R^1 , the weight ratio of said at least one compound to the total weight of said ethylenically unsaturated prepolymer, said ethylenically unsaturated monomer and said photoinitiator being 0.1/100 to 6/100.

In Example 1, Minonishi discloses myristic acid (which is represented by a chemical formula $\text{CH}_3(\text{CH}_2)_{12}\text{COOH}$ and which has a boiling point of 250°C according to the Aldrich handbook). Therefore, Minonishi teaches present compound of formula (I) in which R^1 represents an unsubstituted, saturated hydrocarbon group and X represents $-\text{COOH}$. Also, since Minonishi uses his component (d) in 0.1-6 wt% (see claim 1 above), and since this range overlaps with present range of 0.001-0.3% by weight, the prior art's range would have made present range *prima facie* obvious. See In re Wertheim, supra. Therefore, Minonishi's teaching would render obvious present component (E) (Minonishi also teaches present compound (E) of formula (I), in which X is $-\text{CONHR}^2$ by listing

lauramide, myristamide, palmitamide, stearamide, and eicosanamide as other examples of his component (d)).

Minonishi's components (a) and (b) shown above both teach present component (B).

Minonishi teaches in claim 2 (also in col.7, lines 40-41) that his composition can further contain a binder polymer such as polyvinyl alcohol or polyamide (both of which are water-soluble). Therefore, Minonishi teaches present component (A).

Minonishi teaches (col.7, lines 22-24) that the amount of his photoinitiator ranges from 0.001-10 wt.%. Since this range overlaps with present range of 0.5-5 wt%, the prior art's range would have made present range *prima facie* obvious. See In re Wertheim, supra. Therefore, Minonishi's teaching renders obvious present component (C).

Minonishi also teaches (col.7, lines 25-32) the use of a stabilizer in his composition in order to inhibit heat polymerization. Therefore, the prior art teaches present component (D).

Minonishi also teaches the thickness of his photoresist layer to be 0.1-10 mm (see col.1, lines 19-22). Since this range overlaps with present range of 0.45-0.8 mm, the prior art's range would have made present range *prima facie* obvious. See In re Wertheim, supra. Therefore, Minonishi's teaching renders obvious present inventions of claims 1-3.

With respect to present claim 4, Minonishi teaches a method of obtaining a printing plate by image-wise exposing his photosensitive resin layer to actinic radiation

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through a mask and removing the remaining uncured portions to form a pattern structure of photocured resin (see col.12, lines 3-22). Thus, Minonishi's teaching renders obvious present invention of claim 4.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. J. Lee

S. Lee
April 30, 2005

Sin J. Lee
Sin J. Lee
Patent Examiner
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